

Amendments to the Claims

Claim 1 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantity of CD16 antigen-expressing cells; and
selecting the animal with the lowest quantity of CD16 antigen-expressing cells, thereby selecting for robustness among two or more animals.

Claim 2 (Currently amended): A method for ~~selecting for~~determining robustness characterized by higher than average lifetime average daily gain among two or more animals ~~animals~~ pigs, the method comprising the steps of:
providing two or more ~~animals~~ pigs of the same species;
determining in each ~~animal~~ pig the quantity of CD16 and CD2 double-positive antigen-expressing cells; and
selecting the animal with the lowest quantity of CD16 and CD2 double-positive antigen-expressing cells, thereby ~~selecting for~~determining robustness characterized by higher than average lifetime average daily gain among two or more animals ~~animals~~ pigs.

Claim 3 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantity of CD8 antigen-expressing cells; and

selecting the animal with the lowest quantity of CD8 antigen-expressing cells, thereby selecting for robustness among two or more animals.

Claim 4 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantity of MHC-DQ antigen-expressing cells; and
selecting the animal with the highest quantity of MHC-DQ antigen-expressing cells, thereby selecting for robustness among two or more animals.

Claim 5 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB; and
selecting the animal with the highest quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB, thereby selecting for robustness among two or more animals.

Claim 6 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-

DQ antibodies as MHC-DQD; and

selecting the animal with the highest quantity of cells expressing an antigen that is targeted by

MHC-DQ antibodies as MHC-DQD, thereby selecting for robustness among two or more animals.

Claim 7 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells; and

selecting the animal with the lowest proliferation frequency of CD4 antigen-expressing cells,

thereby selecting for robustness among two or more animals.

Claim 8 (Withdrawn): The method of claim 1, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 9 (Cancelled).

Claim 10 (Withdrawn): The method of claim 3, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 11 (Withdrawn): The method of claim 4, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 12 (Withdrawn): The method of claim 5, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 13 (Withdrawn): The method of claim 6, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 14 (Withdrawn): The method of claim 7, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 15 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantities of CD16 antigen-expressing cells, CD16 and CD2 double-positive antigen-expressing cells, CD8 antigen-expressing cells, MHC-DQ antigen-expressing cells, cells expressing an antigen that is targeted by MHC-DQ

antibodies as MHC-DQB, and cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells; and selecting the animal with the lowest quantity of CD16 antigen-expressing cells, the lowest quantity of CD16 and CD2 double-positive antigen-expressing cells, the lowest quantity of CD8 antigen-expressing cells, the highest quantity of MHC-DQ antigen-expressing cells, the highest quantity of cells expressing an antigen targeted by MHC-DQ antibodies as MHC-DQB, the highest quantity of cells expressing an antigen targeted by MHC-DQ antibodies as MHC-DQD, and the lowest proliferation frequency of CD4 antigen-expressing cells, thereby selecting for robustness among two or more animals.

Claim 16 (Withdrawn): The method of claim 15, wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 17 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantity of CD16 antigen-expressing cells;
determining a statistically significant association between an animal's quantity of CD16 antigen-expressing cells and robustness; and
selecting for the animal in order to improve robustness based on the association.

Claim 18 (Currently amended): A method for determining ~~selecting~~ for robustness characterized by higher than average lifetime average daily gain among two or more ~~animals~~ pigs, the method comprising the steps of:

providing two or more ~~animals~~ pigs of the same species;

determining in each ~~animal~~ pig the quantity of CD16 and CD2 double-positive antigen-expressing cells;

determining a statistically significant association between ~~an animal's~~ a pig's quantity of CD16 and CD2 double-positive antigen-expressing cells and robustness characterized by higher than average lifetime average daily gain; and

selecting for the ~~animal~~ pig in order to improve robustness characterized by higher than average lifetime average daily gain based on the association.

Claim 19 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of CD8 antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD8 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

Claim 20 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the quantity of MHC-DQ antigen-expressing cells;
determining a statistically significant association between an animal's quantity of MHC-DQ
antigen-expressing cells and robustness; and
selecting for the animal in order to improve robustness based on the association.

Claim 21 (Withdrawn): A method for selecting for robustness among two or more animals,
the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-
DQ antibodies as MHC-DQB;
determining a statistically significant association between an animal's quantity of cells expressing
an antigen that is targeted by MHC-DQ antibodies as MHC-DQB and robustness; and
selecting for the animal in order to improve robustness based on the association.

Claim 22 (Withdrawn): A method for selecting for robustness among two or more animals,
the method comprising the steps of:
providing two or more animals of the same species;
determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-
DQ antibodies as MHC-DQD;
determining a statistically significant association between an animal's quantity of cells expressing
an antigen that is targeted by MHC-DQ antibodies as MHC-DQD; and
selecting for the animal in order to improve robustness based on the association.

Claim 23 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells;

determining a statistically significant association between an animal's proliferation frequency of CD4 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

Claim 24 (Withdrawn): The method of claim 17 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 25 (Cancelled).

Claim 26 (Withdrawn): The method of claim 19 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 27 (Withdrawn): The method of claim 20 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 28 (Withdrawn): The method of claim 21 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 29 (Withdrawn): The method of claim 22 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 30 (Withdrawn): The method of claim 23 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 31 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
obtaining a biological sample from the animals, wherein the sample comprises whole blood;
determining in each animal the quantity of CD16 antigen-expressing cells; and
selecting the animal with the lowest quantity of CD16 antigen-expressing cells, thereby selecting for robustness among two or more animals.

Claim 32 (Currently amended): A method for determining ~~selecting for robustness~~ characterized by higher than average lifetime average daily gain among two or more animals ~~pigs~~, the method comprising the steps of:

providing two or more ~~animals-pigs~~ of the same species;
obtaining a biological sample from the ~~animals pigs~~, wherein the sample comprises whole blood;
determining in each ~~animal-pig~~ the quantity of CD16 and CD2 double-positive antigen-expressing cells; and
selecting the ~~animal-pig~~ with the lowest quantity of CD16 and CD2 double-positive antigen-expressing cells, thereby determining selecting for robustness characterized by higher than average lifetime average daily gain among two or more ~~animals pigs~~.

Claim 33 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
obtaining a biological sample from the animals, wherein the sample comprises whole blood;
determining in each animal the quantity of CD8 antigen-expressing cells; and
selecting the animal with the lowest quantity of CD8 antigen-expressing cells, thereby selecting for robustness among two or more animals.

Claim 34 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
obtaining a biological sample from the animals, wherein the sample comprises whole blood;
determining in each animal the quantity of MHC-DQ antigen-expressing cells; and
selecting the animal with the highest quantity of MHC-DQ antigen-expressing cells, thereby selecting for robustness among two or more animals.

Claim 35 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

- providing two or more animals of the same species;
- obtaining a biological sample from the animals, wherein the sample comprises whole blood;
- determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB; and
- selecting the animal with the highest quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQB, thereby selecting for robustness among two or more animals.

Claim 36 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

- providing two or more animals of the same species;
- obtaining a biological sample from the animals, wherein the sample comprises whole blood;
- determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD; and
- selecting the animal with the highest quantity of cells expressing an antigen that is targeted by MHC-DQ antibodies as MHC-DQD, thereby selecting for robustness among two or more animals.

Claim 37 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;
obtaining a biological sample from the animals, wherein the sample comprises whole blood;
determining in each animal the proliferation frequency of CD4 antigen-expressing cells; and
selecting the animal with the lowest proliferation frequency of CD4 antigen-expressing cells,
thereby selecting for robustness among two or more animals.

Claim 38 (Withdrawn): The method of claim 31 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 39 (Cancelled).

Claim 40 (Withdrawn): The method of claim 33 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 41 (Withdrawn): The method of claim 34 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 42 (Withdrawn): The method of claim 35 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 43 (Withdrawn): The method of claim 36 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 44 (Withdrawn): The method of claim 37 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 45 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:
providing two or more animals of the same species;
obtaining a biological sample from the animals, wherein the sample comprises whole blood;
determining in each animal the quantity of CD16 antigen-expressing cells; determining a statistically significant association between an animal's quantity of CD16 antigen-expressing cells and robustness; and
selecting for the animal in order to improve robustness based on the association.

Claim 46 (Currently amended): A method for determining ~~selecting for~~ robustness characterized by higher than average lifetime average daily gain among two or more ~~animals~~ pigs, the method comprising the steps of:
providing two or more ~~animals~~ pigs of the same species;
obtaining a biological sample from the ~~animals~~ pigs, wherein the sample comprises whole blood;

determining in each ~~animal-pig~~ the quantity of CD16 and CD2 double-positive antigen-expressing cells;

determining a statistically significant association between ~~an animal's~~ a pig's quantity of CD16 and CD2 double-positive antigen-expressing cells and robustness characterized by higher than average lifetime average daily gain; and

selecting for the ~~animal-pig~~ in order to improve robustness characterized by higher than average lifetime average daily gain based on the association.

Claim 47 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of CD8 antigen-expressing cells;

determining a statistically significant association between an animal's quantity of CD8 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

Claim 48 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of MHC-DQ antigen-expressing cells;

determining a statistically significant association between an animal's quantity of MHC-DQ
antigen-expressing cells and robustness; and
selecting for the animal in order to improve robustness based on the association.

Claim 49 (Withdrawn): A method for selecting for robustness among two or more animals,
the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-
DQ antibodies as MHC-DQB;

determining a statistically significant association between an animal's quantity of cells expressing
an antigen that is targeted by MHC-DQ antibodies as MHC-DQB and robustness; and
selecting for the animal in order to improve robustness based on the association.

Claim 50 (Withdrawn): A method for selecting for robustness among two or more animals,
the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the quantity of cells expressing an antigen that is targeted by MHC-
DQ antibodies as MHC-DQD;

determining a statistically significant association between an animal's quantity of cells expressing
an antigen that is targeted by MHC-DQ antibodies as MHC-DQD; and
selecting for the animal in order to improve robustness based on the association.

Claim 51 (Withdrawn): A method for selecting for robustness among two or more animals, the method comprising the steps of:

providing two or more animals of the same species;

obtaining a biological sample from the animals, wherein the sample comprises whole blood;

determining in each animal the proliferation frequency of CD4 antigen-expressing cells;

determining a statistically significant association between an animal's proliferation frequency of CD4 antigen-expressing cells and robustness; and

selecting for the animal in order to improve robustness based on the association.

Claim 52 (Withdrawn): The method of claim 45 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.

Claim 53 (Cancelled).

Claim 54 (Withdrawn): The method of claim 47 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 55 (Withdrawn): The method of claim 48 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babulus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 56 (Withdrawn): The method of claim 49 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 57 (Withdrawn): The method of claim 50 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta Canadensis*.

Claim 58 (Withdrawn): The method of claim 51 wherein the species is selected from the group consisting of *Bos taurus*, *Sus scrofa*, *Ovis aries*, *Bison bison*, *Babalus babalus*, *Gallus domesticus*, *Meleagrus gallopavo*, *Anas rubripes*, and *Branta canadensis*.